

# Overview of the Model Package Description (MPD) Specification Podcast

**Justin:** My name is Justin Stekervetz, and I am your host for this podcast. Joining me today is Andrew Owen, a co-chair for the NIEM Technical Architecture Committee, otherwise known as NTAC. Welcome, Andrew, and thank you for joining us today.

**Andrew:** Yeah, thanks for having me.

**Justin:** So Andrew, we would like to start off with our rapid-fire round where we ask you a few questions and you have to try to answer in one sentence. You think you can do that?

**Andrew:** Yeah, of course.

**Justin:** Alright, let's get to it. What is your specialty?

**Andrew:** Well, I focus on designing and implementing pretty much all things related to information sharing architecture...predominantly for justice, public safety, homeland security agencies, so of course this includes things like creating and implementing NIEM standards, but actually goes a bit beyond that into things like service oriented architecture, doing SOA via web services, GFIPM, which is a way to do federated ID and really all of these tie back to NIEM and that NIEM enables each piece of this.

**Justin:** Great. How long have you been involved with the NIEM program and the NTAC?

**Andrew:** I have been on NTAC for I think about five years, and the last 18 months of that has been serving as co-chair. Prior to joining NTAC, I served on the XSTF, which is currently the governing body for the Justice Domain, and prior to that we were the sole governing body for the Global Justice XML Data Model or the GJXDM, so I have been around to see NIEM grow from its early days.

**Justin:** Alright, so let's talk about some acronyms. What does the MPD stand for? And very quickly, what is an MPD?

**Andrew:** MPD stands for Model Package Description, so very quickly, say an MPD is a collection of files and that collection of files provide very specific details about things like NIEM conformant information exchanges, NIEM domain updates, NIEM version releases, and so on. That's just a really quick summary, and I'm sure we will get into some more details here shortly.

**Justin:** That was really great. You answered all those questions pretty much in one sentence. I'm going to give you a nine out of ten. Now that we have a general high-level understanding of your role and the MPD specification itself, let's get into the details. Can you provide a description of what the MPD specification is?

**Andrew:** Sure. So, I just mentioned a second ago, when we talk about MPD, it's really an organized collection of files or mutually supportive documentation. So, I will use IEPD as an example. I think most people involved with NIEM are probably involved because they develop or implement IEPDs. So prior to having the MPD specs, organizations could interpret IEPD requirements however they wish; there was really little guidance about what to include in an IEPD and how to identify IEPD artifacts. So this specification takes that next step and actually tells us what is required and what is optional in terms of creating a conformant IEPD. So if you were to actually read the MPD specs, it gives guidance on common kinds of artifacts, what those artifacts do and in terms of what has to be in an IEPD and what can be in terms of what's optional, and furthermore how to formally identify those artifacts within an IEPD. So I would say the nicest addition introduced by the MPD spec is the formalization of an XML base catalog, and this is a good thing because it provides a consistent way to identify MPD artifacts. So without this catalog we were really left to identify artifacts based on location of the file or the name of the file, and found that to be really unpredictable, inconsistent, and just hard to manage. And lastly here, it's worth noting that the MPD spec isn't just specific to IEPDs, it's broader... it has a broader focus on what NIEM refers to as Information Exchange Models or IEMs, an IEPD is just one kind of an IEM and probably the most common kind, but IEMs also include domain updates and numbered NIEM releases.

**Justin:** Great, thank you for that explanation. So the follow up: why—from a business prospective—should I care about the specification, and what are the benefits for our community or an organization that is looking to adopt NIEM?

**Andrew:** Well, ultimately the MPD spec will help an organization exchange information more easily with hopefully greater constancy and flexibility. Ah, so what I mean by the simplicity side of that, it just makes MPDs easier to design because there is guidance around this, so hopefully we will see MPDs being built more rapidly and, uh, hopefully easier to share, easier to discover. In terms of consistency, I think what we really focus on here is facilitating tool support because we impose a degree of consistency on terminology, syntax, semantics, and really the overall composition of MPDs. So the aim here is to reduce ambiguity and increase predictability of exchange artifacts.

And the last point, flexibility; the spec really gives organizations the latitude to impose additional constraints, specifically organization...and just gives organizations the ability to tailor MPDs in the case that there is more complex or unique data exchange requirements not covered in the MPD specification. So in other words, the MPD spec does not go into as far as prescribe each and every rule for all possible situations or needs of organizations. So as an example, if an organization has the need to include, say, some new exchange artifact in their MPD and the MPD specification does not mention that artifact, that's not to say that the organization cannot specialize the MPD specification to meet their business needs. In terms of flexibility, probably the one rule of thumb, or maybe two rules of thumb, is that whatever you do in terms of customization can't conflict with rules in the MPD specification or the rules in the NIEM naming and design rules.

**Justin:** All of those benefits sound great. So let me see if I understand this, basically MPD is an organized set of files that contain supporting documentation and artifacts that technical folks and the business folks can understand how to use and/or implement an information exchange.

**Andrew:** Yeah, that is exactly right.

**Justin:** Great, that was a lot of good information. So what are the important business implications of the MPD specs or organizations using NIEM?

**Andrew:** The answer here is really similar to the business benefits of the MPD specification. Like I said, the specs really promote simplicity, consistency, and flexibility of MPDs. So organizations that follow the MPD specification would do so for these reasons and expect these outcomes. But like any specification, there is an initial learning curve attached to the MPD spec. But with that said, as the tool community catches up with the specification, I really expect that curve to be less sharp.

**Justin:** Great. So I'm sure a lot of our listeners are probably wondering what's changed in terms of IEPD requirements themselves?

**Andrew:** First, it's worth mentioning that the MPD specification doesn't prescribe a specific folder or directory structure for IEPDs. I just want to say that up front because that is a misconception that I have heard a couple times. The MPD specification does suggest a folder structure that organizations or individuals can adopt for IEPDs, but it's not required. So the reason that we did this is that we found along the way that the organizations or enterprises were establishing their own standards for file or folder directory organizations of IEPDs and it's not the intent of MPD spec to intrude on that work. So the biggest change, to answer your question, I would say is the introduction of the catalog and vocabulary that enables that catalog. The MPD catalog is really just an XML file that resides in the IEPD that adheres to a very specific schema and provides ultimately a consistent way to identify and represent IEPD artifacts, so things like exchange schemas, extension schemas, subset schemas, and so on. Other changes include Uniform Resource Identifiers or URIs or MPD artifacts and then artifacts lineage. I could probably go on about

additional changes, but I encourage listeners to check out a one-pager out on NIEM.gov called MPDs: What's Changed for IEPDs to get the full picture.

**Justin:** So great. So is there going to be impact for those organizations that already have IEPDs?

**Andrew:** It doesn't have to affect existing IEPDS. There is not going to be a rule that says all existing IEPDs have to conform to the MPD spec. It's really up to the authors or owners of the IEPDs to determine if they have requirements for doing so. So the MPD specification is really about IEPDs that are to be developed here in the future and not necessarily going back and changing existing IEPDs.

**Justin:** Ok. So another question that would likely come up: does this mean that organizations and those involved with NIEM will still have to follow the NIEM Naming and Design Rules otherwise known as the NDR?

**Andrew:** Ah yes, of course.

**Justin:** So, how do they relate to one another?

**Andrew:** Well, the NDR and the MPD spec really focus on two different areas of NIEM conformance. I suppose you could think of them as pure conformance specification, but the NDR focuses how to properly use XML and XML schema in order to be NIEM conformant where the MPD spec focuses on artifact inclusion and artifact identification in IEPDs, NIEM releases and domain updates.

**Justin:** Ok, will NIEM developers need to follow the MPD specification in order for their models to be considered NIEM conformant?

**Andrew:** In short, I would say yes. With the upcoming NIEM 3.0 release, one of the major architectural changes will be the ability to specify or assert conformance to individual NIEM conformance targets. So instead of simply proclaiming that something is NIEM conformant, developers will be able to specify specifically to which NIEM conformance target or targets they intend to conform.

**Justin:** So let's say I am an organization that's looking to use NIEM, what do I need to do because of the MPD specification?

**Andrew:** Well, I guess it depends on how the organization participates in or uses NIEM. So a lot of organizations probably create IEPDs, so they'll understand what changed in terms of IEPD requirements. We talked a bit about that before, but really pay close attention to the IEPD requirements section of the MPD specs, especially this new catalog format. Other organizations participate by supporting a NIEM domain, for example within Homeland Security. I know that Customs and Boarder Protection stores the International Trade domain, so in this case they really want to take a look at the section of the MPD spec that talks about domain updates. Tool

developers or organizations that develop tools probably want to concern themselves with the entire specification. And I didn't mention specifically those organizations or individuals that implement IEPDs, but for those folks I would say they'd also be interested in the IEPD requirements section of the specification.

**Justin:** So it's been a lot of great information in terms of wrapping up the discussion, but what do you see as the next steps for the MPD specification?

**Andrew:** I really think it's going to be about promoting adoption of the spec. Given how new the specification is, we've got to focus on encouraging tool development and once we do that it will enable easier conformance to and adoption of the MPD specification.

**Justin:** If our listeners have any questions, where can they go for help?

**Andrew:** One of the nice things about NIEM is that there are a lot of resources at your disposal: the NIEM helpdesk, I believe there is actually going to be a recorded webinar that is the next step to this one. For more technical details about MPDs, there are some forms on NIEM.gov, additional resources specific to the MPD specs. I mentioned one earlier that's also on NIEM.gov, and of course probably the most authoritative reference point for MPD specification is the specification itself.

**Justin:** Well, Andrew, thank you so much for taking the time to speak with us today. As Andrew said, if you have any questions about the model type description specification please reach out to the live technical support staff who are available from 9 a.m. to 8 p.m. eastern time Monday through Friday, excluding government holidays at **1-877-333-5111** or **1-703-726-1919**. They can also be contacted via email at [information@NIEM.gov](mailto:information@NIEM.gov). From the NIEM Program Management Office and the community, thank you all for tuning in.